

Transport and Environment Committee

10.00am, Thursday, 25 April 2024

Footway Capital Investment Prioritisation

Executive/routine
Wards

Executive
All

1. Recommendations

- 1.1 It is recommended that Transport and Environment Committee approves the prioritisation procedures for footway capital investment, as detailed in the Main Report and in Appendices 1, 2 and 3.

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Executive Director of Place

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Footway Capital Investment Programme

2. Executive Summary

- 2.1 This report seeks approval for updated procedures for the prioritisation of capital footway investment schemes. The revised procedures now include a risk-based footway hierarchy and introduce additional weightings for deprivation and footway width.
- 2.2 The footway schemes prioritised for investment will be included in the 2024/25 Roads and Infrastructure Capital Footways Programme.

3. Background

- 3.1 On 20 April 2023, Committee [requested](#) an updated methodology of prioritisation in line with the most recent strategies and City Mobility Plan action plan in time for the Capital Delivery Priorities.
- 3.2 The [existing prioritisation procedures](#) were approved by the Transport and Environment Committee on 28 October 2014.
- 3.3 The existing procedures only considered footfall as a prioritisation weighting. This was based on a footfall assessment carried out in 2010 and considered multiple occupancy buildings, town centres, local centres and neighbourhood shop groups.
- 3.4 Table 1 below shows the existing weightings applied to a footway condition score:

Table 1

Usage Category	Super High Use	High Use	Medium Use	Low Use	Ultra Low Use
Weighting Multiplier	2.5	2.0	1.6	1.2	1.0

- 3.5 The proposed prioritisation considers additional characteristics for footways including width, deprivation and street design classification.

4. Main report

- 4.1 It was identified that the existing footway weighting did not provide sufficient data regarding footfall and usage across the city.
- 4.2 On 6 October 2022, Committee approved the updated Risk Based Approach to [Road Asset Safety Inspection](#). The report detailed an updated footway hierarchy that determines the frequency of safety inspections.
- 4.3 This hierarchy was updated using the usage categories from the Edinburgh Street Design Guidance (ESDG). This ensures that the streets with the highest frequency of pedestrians are being inspected on a more regular basis. Appendix 1 shows the Street Design Categories and the updated hierarchy category.
- 4.4 This hierarchy will now be used as the basis for the usage prioritisation weighting for capital investment. Appendix 2 shows the new weighting that will be applied to all footway condition scores:

Additional Weightings – Footway Width

- 4.5 In 2023, analysis was carried out on Edinburgh's footway network. The assessment highlights footways that do not comply with the ESDG.
- 4.6 Footway width was measured and ranked based on whether it achieves the maximum or desired width, specified within the guidance. The desired and maximum footway width varies depending on street type.
- 4.7 All sections of footway were then graded on the width that is achieved:
 - 4.7.1 Red Category: below absolute minimum width;
 - 4.7.2 Amber Ranking: between absolute minimum and desired minimum width; or
 - 4.7.3 Green Ranking: above desired minimum width.
- 4.8 All of this data has now been mapped on the Council's GIS (Geographic Information System).
- 4.9 Footways below the absolute minimum width can cause difficulties for users - in particular, for users with mobility issues. Therefore, it is proposed to add additional weightings to the footway prioritisation procedures.
- 4.10 Appendix 2 shows the additional weightings that will be applied to footway condition scores.

Additional Weightings – Deprivation

- 4.11 The Scottish Index of Multiple Deprivation (SIMD) is a measure of deprivation across 6,976 data zones. SIMD is the Scottish Government's standard approach to identify areas of multiple deprivation in Scotland.
- 4.12 Footway condition can have a big impact of people living in areas of high deprivation. It can cause perceived safety concerns, particularly for people with mobility issues. Slipping and tripping on footways of poor quality and lack of drop kerbs and tactiles also lead to poor public perception and can discourage walking.

- 4.13 Slips and trips on footways in more deprived areas can have more severe consequences. Private car ownership is also lower, therefore, accessing public transport also plays a vital role in deprived areas. Therefore, suitable footway condition is important to allow this access.
- 4.14 The SIMD data provides deprivation ranks for the data zones (e.g. 5% most deprived in Scotland, 10% etc).
- 4.15 It is proposed to introduce additional footway prioritisation weightings for these data zones. Appendix 2 shows the additional weightings that will be applied to footway condition scores:
- 4.16 The prioritisation procedures for carriageways and footways are detailed in Appendix 3.

5. Next Steps

- 5.1 If approved by Committee, the new prioritisation procedures will be applied to all existing capital footway schemes. The prioritised schemes will be included in the Roads and Infrastructure Capital Footway programmes in 2024/25.
- 5.2 The programme of capital footway works is also included on the agenda for this Committee.

6. Financial impact

- 6.1 There are no direct financial implications associated with this report.
- 6.2 The footway schemes that will be prioritised for investment will be funded from the Roads and Infrastructure Capital budget.

7. Equality and Poverty Impact

- 7.1 The new prioritisation procedures, presented in this report include an additional weighting for deprivation. This will help to target investment into the most deprived areas in Edinburgh.
- 7.2 The additional weighting for footway width will also assist in targeting investment into footways that require improvements that will assist with mobility.

8. Climate and Nature Emergency Implications

- 8.1 As a public body, the Council has statutory duties relating to climate emissions and biodiversity. The Council

“must, in exercising its functions, act in the way best calculated to contribute to the delivery of emissions reduction targets”

(Climate Change (Emissions Reductions Targets) (Scotland) Act 2019), and

“in exercising any functions, to further the conservation of biodiversity so far as it is consistent with the proper exercise of those functions”

(Nature Conservation (Scotland) Act 2004)

- 8.2 The City of Edinburgh Council declared a Climate Emergency in 2019 and committed to work towards a target of net zero emissions by 2030 for both city and corporate emissions and embedded this as a core priority of the Council Business Plan 2023-27. The Council also declared a Nature Emergency in 2023.

9. Risk, policy, compliance, governance and community impact

- 9.1 Consultation was carried out with The Ripple Project and with Living Streets.
- 9.2 This report details a new prioritisation that will help to target footway investment into the most appropriate areas across Edinburgh.
- 9.3 There are no addition risks to approving the recommendation in this report.

10. Background reading/external references

- 10.1 Details of the Scottish Index of Multiple Deprivation can be found on the [Scottish Government Website](#).

11. Appendices

Appendix 1 – Footway Hierarchy

Appendix 2 – Prioritisation Weightings

Appendix 3 – Prioritisation of Maintenance Schemes

Street Design Guidance Category		Footway Hierarchy Category
Special		Prestige Walking Zones
Retail / High Streets	Strategic	Primary Walking Routes
	Secondary	Secondary Walking Routes
	Local	Local Access Footways / Footpaths
Service Sector Employment	Strategic	Local Access Footways / Footpaths
	Secondary	Local Access Footways / Footpaths
	Local	Local Access Footways / Footpaths
High Density Residential	Strategic	Link Footways / Footpaths
	Secondary	Link Footways / Footpaths
	Local	Local Access Footways / Footpaths
Med Density Residential	Strategic	Local Access Footways / Footpaths
	Secondary	Local Access Footways / Footpaths
	Local	Local Access Footways / Footpaths
Low Density Residential	Strategic	Local Access Footways / Footpaths
	Secondary	Local Access Footways / Footpaths
	Local	Local Access Footways / Footpaths
Industrial Employment	Strategic	Local Access Footways / Footpaths
	Secondary	Local Access Footways / Footpaths
	Local	Local Access Footways / Footpaths
Rural roads / No frontage	Strategic	Minor Footways
	Secondary	Minor Footways
	Local	Minor Footways

Prioritisation Weightings

Footway Hierarchy Weighting

Category	Category Name	Weighting Multiplier
1	Prestige Walking Zones	1.8
2	Primary Walking Routes	1.6
3	Secondary Walking Routes	1.5
4	Link Footways / Footpaths	1.4
5	Local Access Footways / Footpaths	1.2
6	Minor Footways	1.2

Footway Width Weighting

Width Category	Category Name	Weighting Multiplier
Green	Above desired minimum width	1.00
Amber	Between absolute minimum width and desired minimum width	1.05
Red	Below absolute minimum width	1.10

Deprivation Weighting

Vigintile	Category Name	Factor
1	Top 5% most deprived areas in Scotland	1.25
2	Top 6-10% most deprived areas in Scotland	1.20
3 & 4	Top 11-20% most deprived areas in Scotland	1.10
5, 6, 7 & 8	Top 21-40% most deprived areas in Scotland	1.05

Prioritisation of Maintenance Schemes

CARRIAGEWAY EVALUATION

The assessment of the condition of the city's roads is measured annually by the Scottish Road Maintenance Condition Survey (SRMCS). The survey provides each authority with its Roads Condition Index (RCI). This is the percentage of roads that should be considered for investment.

The RCI consists of three levels of deterioration: Red, Amber 1 and Amber 2, with Red classed roads being in the worst condition. The majority of carriageways currently selected for investment fall within the Red condition category.

The UK Pavement Management System (UKPMS) is the national standard for management systems for assessing the condition of the local road network and for planning the type of investment that is required.

The UKPMS is used for systematic collection and analysis of condition data, i.e. Scottish Road Maintenance Condition Survey. This analysis is then used to recommend the type of resurfacing method that should be used on specific defects on a particular category of road.

The UKMPS is configured to ensure that the recommended maintenance is in line with the full investment strategy and within the parameters set out in the Roads Asset Management Plan.

The defect criteria used to select the appropriate treatment is shown in Table 1.

Criteria to be used when selecting the appropriate treatment type on Edinburgh Carriageway Network:

Table 1

	Strengthening	A Roads		B Roads		C Roads		U Roads	
Criteria No:	Defect	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower
1	Rut Depth (mm)	Max	8	Max	10	NA	NA	NA	NA
2	Rut Depth %>10mm	NA	NA	NA	NA	100%	40%	100%	50%
3	LPV (3m) (mm ²)	Max	10	Max	10	NA	NA	NA	NA
4	LPV (3m) (mm ²) (%>10mm ²)	NA	NA	NA	NA	100%	40%	100%	50%
5	Cracking (>4)	100%	30%	100%	40%	NA	NA	NA	NA

	Resurfacing	A Roads		B Roads		C Roads		U Roads	
Criteria No:	Defect	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower
1	Rut Depth (mm)	8	4	10	7	NA	NA	NA	NA
2	Rut Depth %>8mm	NA	NA	NA	NA	100%	40%	100%	50%
3	LPV (3m) (mm ²)	10	6	10	8	NA	NA	NA	NA
4	LPV (3m) (mm ²) (%>8mm ²)	NA	NA	NA	NA	100%	40%	100%	50%
5	Cracking (>4)	30%	10%	40%	20%	100%	40%	100%	40%

	Surface Dressing	A Roads		B Roads		C Roads		U Roads	
Criteria No:	Defect	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower
1	Texture Depth (mm)	0.5	0	0.5	0	0.5	0	0.3	0
2	High Texture (mm)		1.5		1.5		1.5		1.5
3	Rutting / LPV (3m)	NA	NA	NA	NA	NA	NA	25%	0%
4	Cracking (>1)	100%	50%	100%	50%	100%	20%	100%	20%

Carriageway Prioritisation

The table below shows the value of the priority rating, which is applied to the UKPMS condition score:

Table 2

Road Category (As shown in Table 1 above)	Weighting Roads not on Bus Route	Low Bus Use Roads with less than 15 Buses per hour	Medium Bus Use Roads with 15 to 50 Buses per hour	High Bus Use Roads with more than 50 Buses per hour	Cycle Use Carriageways that are on the Family Friendly Network
Special	2.0	Increase the score by 10%	Increase the score by 25%	Increase the score by 50%	Increase the score by 5%
Type 1	1.8	Increase the score by 10%	Increase the score by 25%	Increase the score by 50%	Increase the score by 5%
Type 2	1.6	Increase the score by 10%	Increase the score by 25%	Increase the score by 50%	Increase the score by 5%
Type 3	1.3	Increase the score by 10%	Increase the score by 25%	Increase the score by 50%	Increase the score by 5%
Type 4	1.0	Increase the score by 10%	Increase the score by 25%	Increase the score by 50%	Increase the score by 5%

Table 3 below shows how the Type of the carriageway is determined:

Table 3

Type	MSA
Special	Over 30
Type 1	10 - 30
Type 2	2.5 - 10
Type 3	0.5 – 2.5
Type 4	Up to 0.5

Traffic count data is measured in Million Standard Axels (MSA). It takes into account number of vehicles passing per day with all direction combined. Once the condition score is multiplied by the prioritisation score a list of schemes can be sorted. The list shows highest priority to lowest priority.

These schemes are then passed to the Design Team to allocate costs to give an estimate of repair depending on the extent of reconstruction required.

Once these estimates are placed on the priority list and the annual budget allocation has been determined the list of schemes which can be carried out can be determined.

SETTED CARRIAGEWAY EVALUATION

The evaluation of the Setted Carriageways is not suitable for the SRMCS. Therefore, a visual assessment is carried out in order to produce a condition score. This involves a visual condition assessment of the road surface by qualified staff, together with a potential risk assessment.

The criteria used for the assessment are as follows:

- Drainage Condition
- Surface irregularity/Deformation
- Whole Carriageway Deterioration
- Deterioration beyond Cyclic Maintenance Levels
- Will Exclusion Cause Risk

Condition Scoring

1. Drainage Condition

Ideally in purely drainage schemes this rating should be given after a period of bad weather. This will obviously not always be possible, so the existence of any gullies, grips, piped grips and ditches should be taken into account.

- Rating 0 = Sufficient drainage facilities, no standing water after rainfall.
 Rating 1 = Carriageway surface allowing minor standing water, although most of the water is draining away.
 Rating 2 = Drainage facilities severely lacking, causing standing water over large proportion of the carriageway.
 Rating 3 = Severe flooding, lasting long after rain has dried in surrounding area, causing major disruption to vehicle movements.

2. Surface Irregularity/Deformation

Here the ratings relate to the overall continuity of the surface of the carriageway, i.e. wheel track rutting, pushing, general shape, etc.

- Rating 0 = Completely uniform surface.
 Rating 1 = Slight undulation of surface.
 Rating 2 = Minor rutting or pushing of surface.
 Rating 3 = Rutting noticeable to drivers, giving uncomfortable journey.
 Rating 4 = Surface shape giving indications of deeper structural damage.
 Rating 5 = Severe undulations indicating major deep structural damage.

3. Whole Carriageway Deterioration

The rating should indicate the actual condition of the surface material of the carriageway.

- Rating 0 = New looking surface, no material loss
- Rating 1 = Slight crazing of the main running surface
- Rating 2 = Start of wheel track cracks and some patches already exist.
- Rating 3 = Cracking both horizontally and vertically Existing patches starting to break up.
- Rating 4 = Serious wheel track cracking and crazing of surface, existing patches failure.
- Rating 5 = Surface breaking up and liable to cause injury.

4. Has Section deteriorated beyond Cyclic Maintenance levels?

This section has been provided to allow the assessors to rate the overall scheme condition. The rating is given between 0 and 5.

- Rating 0 = Very good condition, probably more than 10 years residual life
- Rating 1 = Good condition, probably 5-10 years residual life
- Rating 2 = Still in good condition, starting to wear in areas but still probably 5-7 years residual life.
- Rating 3 = Reasonable condition, wear and tear starting to show, probably 2-5 years residual life.
- Rating 4 = Poor condition, giving pedestrians difficulties, requires maintenance in the next 2 years.
- Rating 5 = Requires maintenance urgently.

5. Will exclusion increase risk?

Here, the assessor should be thinking “If this Scheme is not included in this year’s maintenance list, would risk be increased before next year’s assessment?”

- Rating 0 = Definitely no increase in risk.
- Rating 1 = No increase in risk levels should be expected
- Rating 2 = Slight possibility of rise in minor damage to vehicles
- Rating 3 = Possibility of rise in more serious damage to vehicles
- Rating 4 = High risk of injury to pedestrians / damage to vehicles
- Rating 5 = Very high risk if excluded from the maintenance list this year.

The same prioritisation weightings for carriageways are applied to setted carriageways. Setted carriageways are prioritised against each other and not against other carriageways.

FOOTWAY EVALUATION

Schemes are prioritised based on a condition assessment carried out by a Roads Inspector. The condition score is then multiplied by a prioritisation weighting to give the priority score.

A condition assessment will be carried out to identify potential footway schemes that require capital investment. A condition assessment is initiated by one or more of the following methods:

Footway Network Survey (FNS): Carried out by 1 inspector on the carriageway over an 18 month period. It highlights areas that require a condition assessment.

The evaluation of the Footway involves a visual condition assessment of the surface by qualified staff together with a potential risk assessment.

The criteria used for the assessment are as follows:

- Kerb Upstand
- Kerb Deterioration/Alignment
- Footpath/Footway Deformation
- Footpath/Footway Deterioration
- Surface Water
- Deterioration beyond Cyclic Maintenance Levels
- Will Exclusion Cause Risk

A needs assessment form is completed and numerical values given to each of the 7 criteria within the bands given on the sheet.

Condition Scoring

1. Kerb Upstand:

This element should be evaluated giving a rating between zero and three e.g. where a kerb upstand should be 110 mm. the rating applied shall be as follows:

Rating 0 =	Upstand	110 - 100 mm.
Rating 1 =	Upstand	100 - 70 mm.
Rating 2 =	Upstand	70 - 40 mm.
Rating 3 =	Upstand	40 - 0 mm.

2. Kerb Deterioration/Alignment

The rating of this element should reflect the actual appearance of the kerb with respect to the condition and the continuity of the level.

- Rating 0 = New looking kerbs, no unnecessary rise and fall, no trips.
- Rating 1 = Slightly chipped edges/missing corners, slight rising of few kerbs, occasional trips.
- Rating 2 = Some kerbs may be cracked/spalling, rising of kerbs causing major trips.
- Rating 3 = Missing kerbs/major deterioration, rising of kerbs liable to cause injury.

3. Footpath/Footway Deformation

Here the ratings relate to the overall continuity of the surface of the footpath/footway, i.e. sunken flags, raising of sand carpet by tree roots etc.

- Rating 0 = Completely flat.
- Rating 1 = Slight undulation of surface.
- Rating 2 = More serious movement in the surface.
- Rating 3 = Undulation severe, causing difficulty walking.

4. Footpath/Footway Deterioration

The rating should indicate the actual condition of the surface material of the footpath/footway.

- Rating 0 = New looking surface, no material loss.
- Rating 1 = Slight material loss or damage to flags.
- Rating 2 = Approx. 25% material loss, broken flags.
- Rating 3 = Serious material loss, missing flags, etc. liable to cause injury.

5. Surface Water

This section allows the assessor to indicate the extent of the problem caused by the footpath/footway surface allowing surface water to stand after the rest of the area has dried.

- Rating 0 = No standing surface water.
- Rating 1 = 0-10% of surface covered with shallow pools of standing water.
- Rating 2 = 10-40% of surface covered with shallow pools of standing water.
- Rating 3 = Greater than 40% of surface with major water problems.

6 Has section deteriorated beyond Cyclic Maintenance Levels?

This section has been provided to allow the assessor to rate the overall scheme condition. The rating is given between zero and five.

- Rating 0 = Very good condition, probably more than 10 years residual life.
- Rating 1 = Good condition, probably 5-10 years residual life.
- Rating 2 = Still in good condition, starting to wear in areas but still probably 5-7 years residual life.
- Rating 3 = Reasonable condition, wear and tear starting to show probably 2-5 years residual life.

- Rating 4 = Poor condition, giving pedestrians difficulties, requires maintenance in the next 2 years.
- Rating 5 = Requires maintenance urgently.

7 Will exclusion cause risk?

Here, the assessor should be thinking “If this scheme is not included in this year’s maintenance list, would risk be increased before next year’s assessment?”

- Rating 0 = Definitely no increase in risk
- Rating 1 = No increase in risk levels should be expected
- Rating 2 = Slight possibility of rise in minor injuries to pedestrians
- Rating 3 = Possibility of rise in more serious injuries to pedestrians
- Rating 4 = High risk of injury to pedestrians
- Rating 5 = Very high risk to be excluded from the maintenance list for this year

Prioritisation

Table 4 below shows the value of the footfall factor, based on the inspection frequency, which is applied to the condition score:

Table 4		
Category	Category Name	Factor
1	Prestige Walking Zones	1.8
2	Primary Walking Routes	1.6
3	Secondary Walking Routes	1.5
4	Link Footways / Footpaths	1.4
5	Local Access Footways / Footpaths	1.2
6	Minor Footways	1.2

Table 5 below shows the value of the footway width factor, based on the footway width survey data held, which is applied to footway schemes apart from those which are identified for slurry sealing.

Table 5		
Category	Category Name	Factor
Green	Above desired minimum width	1.0
Amber	Between absolute minimum width and desired minimum width	1.05
Red	Below absolute minimum width	1.1

Table 6 below shows the value of the deprivation factor, based on SIMD 2020 data, which is applied to the footway condition score.

Table 6		
Vigintile	Category Name	Factor
1	Top 5% most deprived areas in Scotland	1.25
2	Top 6-10% most deprived areas in Scotland	1.2
3 & 4	Top 11-20% most deprived areas in Scotland	1.1
5, 6, 7 & 8	Top 21-40% most deprived areas in Scotland	1.05
9+	Not within top 40% most deprived areas in Scotland	1

Once the condition score is multiplied by the prioritisation score a list of schemes can be sorted. The list shows highest priority to lowest priority.

These schemes are then passed to the Design Team to allocate costs to give an estimate of repair depending on the extent of reconstruction required.

Once these estimates are placed on the priority list and the annual budget allocation has been determined the list of schemes which can be carried out can be determined.

The priority list keeps the Footway and Carriageway schemes separated.

Off-Road Cycleways

Off-Road cycleways are treated as part of the Footways allocation but are ranked separately depending on their usage.

Table 7 below shows the value of the priority rating, which is applied to the condition score:

Table 7			
Usage Category	High	Medium	Low
Weighting Multiplier	2.0	1.5	1.0